

REMARKS

Claims 1, 3-4 are pending in the present application, claim 2 having been cancelled herein. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Applicant has amended the specification to bring it in conformance with the U.S. practice by adding headings and correcting typographical errors.

Claims 1, 2 and 4 were rejected under 35 U.S.C. § 103 as being unpatentable over McInnes et al. (U.S. Patent No. 6,244,108) in view of Bux et al. (U.S. Patent No. 6,122,957). Claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over McInnes et al. in view of Bux et al., and further in view of Rothamel et al. (U.S. Patent No. 5,909,097). These rejections are respectfully traversed for the following reasons.

Claim 1 recites a machine for balancing rotating bodies, in particular motor vehicle wheels, by applying balancing masses onto a rotating application surface (11a) pertaining to the body, including *inter alia*, a support and rotation means (20) for supporting the body (10) and rotating it about its axis of rotation, first sensor means (30) for determining the axial position of at least one chosen transverse balancing plane (P1, P2) in which to apply the balancing mass, and the radial position of points on the application surface (11a) on the body (10) which lie in the balancing plane (P1, P2), and second sensor means (40) for determining the angular position of the body (10). The machine further includes means for determining the imbalance factors on the body (10), a processor means arranged to

process the data originating from the first and second sensor means and from the imbalance determination means and to determine the value of the balancing mass and the position of its point of application on the application surface (11a), a means (50) arranged to acquire images originating from the application surface (11a), and a display means (60) to display the images on a screen (61) accessible to the operator. The processor means is connected to the display means (60) and indicates on the screen (61) the position of the point of application of the balancing mass in relation to the image of the application surface (11a) by means of an optical sign (62) appearing visibly superposed on the image of the surface (11a) acquired by the means (50) arranged to acquire images and displayed on the screen (61). This was not taught, disclosed or made obvious by the prior art of record.

Applicant has amended claim 1 to more clearly point out that according to Applicants' invention, the means (50) to acquire images originating from the wheel surface (11a), displays such images on the screen (61) of a display (60) and simultaneously the processor means indicates on the same screen the calculated position of the point of application the balancing mass on the application surface (11a) by means of optical signs (62), the optical sign (62) appearing visibly superposed on the image of the surface (11a) acquired by the means (50). So, in operation, the operator carries the balancing mass (M) to the point of application determined by the machine while following the image of the balancing mass itself (brought with his hand or with another means) on the screen (61), and applies it to the surface (11a) when this image is suitably centered by the sign (62). Applicant

respectfully submits that this is not taught, disclosed or made obvious by the prior art of record, whether taken alone or in combination as proposed in the Office Action.

The McInnes patent is discussed on pages 2-3 of the present application. In particular, McInnes uses an oscillating indicator means connected to the processor to project a light point onto the application surface of the wheel rim in the position of the application of the balancing mass by the processor. This indicator means determines the position of the application point with the aid of means which halt the shaft rotation in the calculated angular position. However, as recognized in the Office Action, McInnes et al. does not teach the claimed apparatus and method of imaging the inner rim of the wheel and displaying on the screen by an optical sign the calculated position of the point of application of the balancing mass on the application surface, the optical sign appearing visibly superposed on the image of the surface acquired by the imaging means.

The Office Action cites Bux et al. as allegedly teaching these features. Applicant respectfully disagrees. In particular, the display device of Bux (not shown) is connected to the computer only and the camera 10 has the sole function of scanning the rim 1 and converting the received picture into electrical signals which are processed in the computer in such a way that the rim outline is evaluated from the picture of the scanned portion of the rim. Bux et al. then displays the evaluated rim outline and optimal balancing values at the corresponding positions of the rim outline. Bux et al. do not teach displaying the real images of the wheel surface (rim and hand of the operator) on the screen together with optical signs indicating the

position of the point of application of the balancing means on the rim application surface, as recited in claim 1.

Additionally, the object stated in Bux et al. is to evaluate the optimal balancing values, as weight and positions for the balance of weights for any wheel forms without a user having to determine the balancing planes before hand (see column 1, lines 40-43). In contrast, according to Applicant's claimed invention, the balancing planes (P1 and P2) are determined beforehand. Applicant respectfully submits that there is no motivation either in the prior art which would suggest to one of ordinary skill in the art to combine the teachings of the references without impermissible hindsight to Applicant's disclosure.

For at least these reasons, Applicant respectfully submits that claims 1 and 4 are patentable over the prior art of record whether taken alone or in combination as proposed in the Office Action.

With respect to claim 3, Applicant respectfully submits that claim 3 is patentable in and of itself and as it depends from and includes the recitations of claim 1 for the reasons discussed above. Applicant respectfully submits that Rothemal et al. do not remedy the deficiencies noted above with respect to McInnes et al. and Buz et al.


In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record. Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

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If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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